(No Model.)

W. J. WRIGHT.

WRENCH OR CLAMP ADJUSTMENT.

No. 526,476. Patented Sept. 25, 1894.

Fig. 1

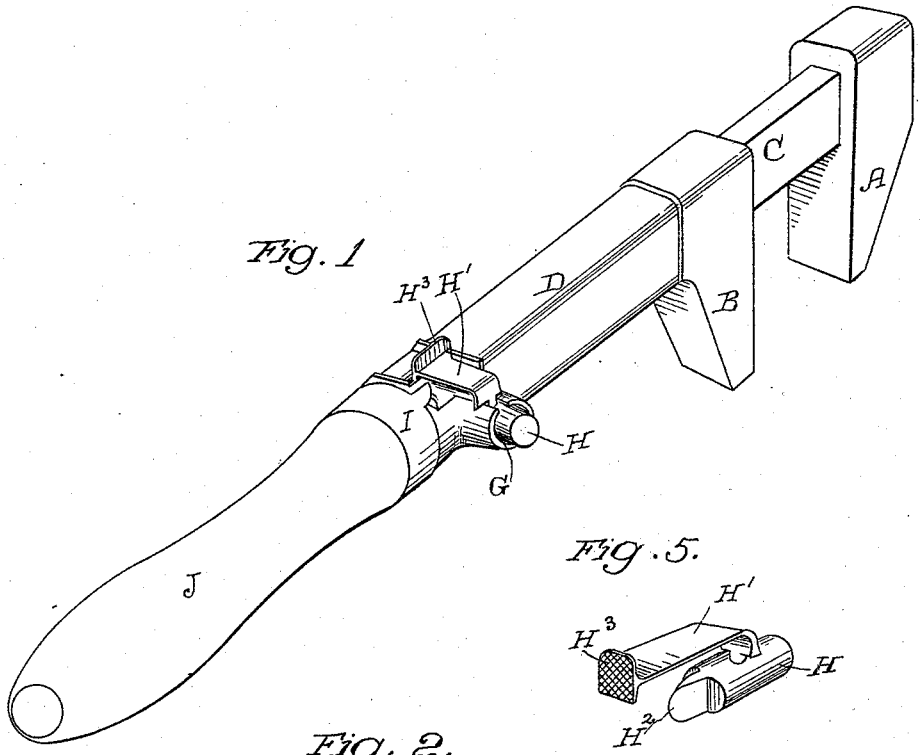


Fig. 5.

Fig. 2.

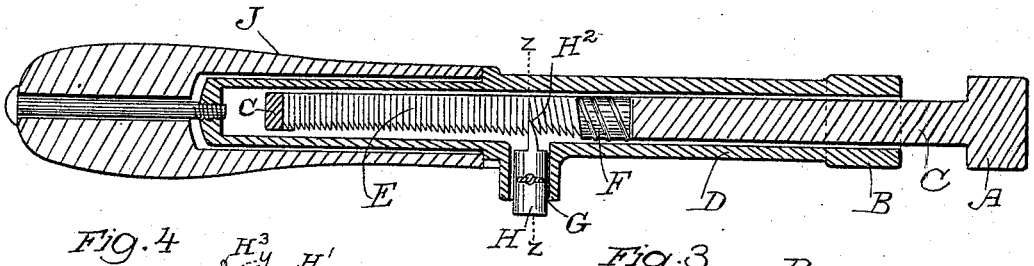


Fig. 4

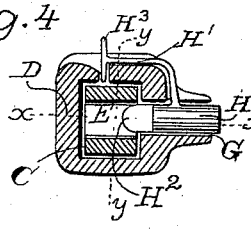
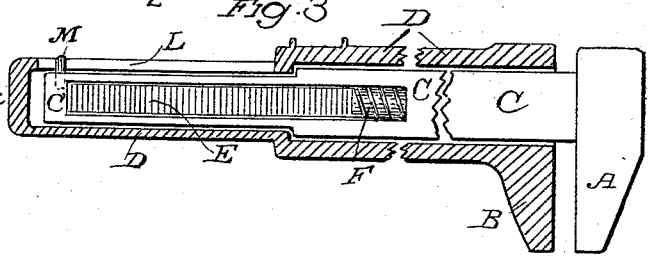


Fig. 3



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UNITED STATES PATENT OFFICE.

WILLIAM J. WRIGHT, OF OAKLAND, CALIFORNIA.

WRENCH OR CLAMP ADJUSTMENT.

SPECIFICATION forming part of Letters Patent No. 526,476, dated September 25, 1894.

Application filed February 9, 1894. Serial No. 499,658. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. WRIGHT, a citizen of the United States, residing in Oakland, Alameda county, State of California, have invented an improvement in Wrench or Clamp Adjustments; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to an adjustment for wrenches and other forms of clamping apparatus.

It consists in certain details of construction, which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is an exterior view of my device showing its application to a monkey wrench. Fig. 2 is a longitudinal horizontal section on the line *x—x* of Fig. 4, showing the interior construction. Fig. 3 is a longitudinal vertical section on the line *y—y* of Fig. 4. Fig. 4 is a transverse section on the line *z—z* of Fig. 2. Fig. 5 is a view of the locking device.

The object of my device is to provide a means for minutely adjusting the jaws of clamps of any description and permanently locking them in position after adjustment. It is especially applicable to quickly setting the jaws of monkey wrenches, vises and other clamps, and for other purposes where screw adjustments are commonly or frequently used.

I have, in the present case, shown the device as applied to the monkey wrench which will well illustrate its application to any form of clamp.

A is the outer and B the inner jaw of the wrench. The outer jaw is formed upon a bar C, and the inner jaw has an extension sleeve D adapted to slide over the shank of the outer jaw so that the two jaws may be moved to or from each other at will. The shank C is slotted or channeled at a point in its length and has fitted into the slot thin plates E of steel or other metal. The channel is a longitudinal one, and may be rectangular in cross section, the plates being made of the same shape and fitting loosely in the channel without turning, or, if preferred, the plates may be made round, oval, or any other desired shape, or perforated having a hole through the center with a guide rod upon which they are movable. At one end, these plates abut against the end of the channel. At the other they abut against an elastic cushion or spring F which keeps them closely pressed together at all times, but which will yield sufficiently to allow them to be separated at any point. This portion of the shank C fits within a correspondingly shaped portion of the sleeve or casing D, and the edges of the plates at one side are guided by the inner side of the sleeve.

Transversely across the sleeve D is made an opening G within which slides a bolt H. This bolt has a spring arm H′ extending out from one side, thence bent at right angles so that the plate extends parallel with the bolt and exterior to the sleeve, where it moves in a guiding channel, so that it may be caused to slide transversely across the sleeve.

The inner end of the bolt has a wedge-shaped rounded point H^2, and this edge is adapted to pass between any of the plates E E opposite to which it may stand at the time when the bolt is moved. The edges of the plates which correspond with the wedge-shaped edge of the bolt, are preferably beveled and brought to a thin edge so as to form an easy entrance for the wedge when the bolt is moved.

The operation will then be as follows: The bolt being pushed outward so that the wedge is disengaged from the plates E, the sleeve or casing D is moved over the shank C until the jaws A and B are set to fit the object designed. The bolt is then pushed inwardly and the wedge will enter between the plates opposite which it then stands, and when so entered, the straight portion which forms the extension of the wedge will lie between these plates, and will thus form a lock to hold the jaws in the position to which they are adjusted. As the rear ends of the plates rest against the solid immovable end of the channel in which they are fitted, it will be manifest that no force or strain applied to the jaws will move them, and as the plates are thin, the adjustment may be made as minutely as may be desired. If the device is fitted to a clamp which is afterward to be tightened, this may be done by means of a screw passing through the end of the shank and acting against the rear plate, or a follower which moves the plates.

In order to lock the bolt when it is in place, I have shown a projecting spur or thumb piece H^3 at the end of the elastic plate H′ which slides transversely upon the outside of the sleeve. This spur is forced down into a retaining notch, or a shoulder exterior to the sides of the sleeve, when the bolt has been pushed home, and thus prevents the bolt from being retracted. When it is desired to reciprocate the bolt for the purpose of releasing the jaws, a pressure upon this spur or thumb piece will raise it, on account of the elasticity of the spring, and it is then pushed across the sleeve, and the bolt pushed out until the locking wedge is disengaged from the plates, when the sleeve and jaw may be moved backward or forward as desired. A suitable stop notch is formed in the channel in which the plate H slides and the spur is stopped by this when the bolt has been retracted as far as necessary; or, if preferred, the ferrule I of the handle J is formed with a projection K against which the back of the spur is arrested when the bolt is pushed outwardly. A slot L is made in one side of the rear end of the sleeve D, and a pin M passing through this slot is fixed in the end of the shank C, and this limits the sliding movement of the shank and the distance to which the jaws may be separated.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An adjustment for clamping jaws or followers, consisting of a bar or shank sliding in a guide or casing, independent separable plates fitted to the shank, a transversely movable locking plate fitted to the casing and adapted to pass between any pair of the plates or be disengaged therefrom, the said locking plate or bolt being provided with a combined operating arm and spring catch adapted to engage a recess or shoulder of the guide or casing and lock the locking plate or bolt in engagement with the said plates.

2. A locking device for clamping jaws or followers consisting of a slotted shank having a channel, independent separable plates fitted in said channel with an elastic abutment at one end whereby they are normally closed together and held against the opposite end of the channel, a sleeve or casing within which the shank is slidable so that the jaw carried by it is approached to or retracted from the jaw carried by the shank, a bolt movable transversely in said sleeve having a wedge-shaped end adapted to enter between any pair of the plates opposite which it stands, and a spring plate connected with said bolt having a thumb piece the said sleeve being provided with a recess or shoulder in the path of the lower end of the thumb piece, said thumb-piece and recess or shoulder when engaged being adapted to lock the bolt in position, substantially as described.

3. An adjusting device for clamping jaws and followers, consisting of a shank having a longitudinal channel, independent separable plates fitting within said channel abutting at one end against the end of the channel, at the opposite end against an elastic abutment whereby they are normally retained in close contact, said plates having the projecting edges beveled or chamfered, a sleeve or casing slidable upon the outside of the shank having an opening made transversely in one side, a bolt slidable in said opening having a wedge-shaped inner end adapted to enter between any pair of plates opposite which it stands whereby the casing and shank are locked with relation to each other, an elastic arm formed with or projecting from said bolt, standing parallel with it and traveling in a transverse guide upon the casing, a thumb piece formed upon the end of the elastic plate adapted to lock the bolt when it is pushed in, and a stop against which the thumb piece is arrested when the bolt is pushed back to release the parts and allow the casing to be moved upon the shank as described.

In witness whereof I have hereunto set my hand.

WILLIAM J. WRIGHT.

Witnesses:
S. H. NOURSE,
H. F. ASCHECK.